# PHOTOGRAPHIC EVALUATION REPORT FORWARD CAMERA

Mission No: 9032
Film Type: J-23-7600
Camera No: 72 (Fwd)

Photo Date: 18 Apr 62 Filter, Main: W 21

Evaluation No: FE 29-62 Filter, Horizon: W 25

Evaluated By: TK & ES

1. Shutter Operation:

a. Port Horizon - malfunction, (shutter remained open) on 59 frames of passes AO4, DO4, DO5, DO6, DO7 and DO8 degrading portions of the subsequent terrestrial photograph.

b. Starboard Horizon - Good

2. Slit Width: (Main Camera) 0.2" - Good

3. Exposure:

a. Port Horizon - 1/50 sec. (overexposed entire mission)

b. Starboard Horizon - 1/50 sec (overexposed entire mission)

- 4. Camera Number: Operational, overexposed throughout entire mission.
- 5. Binary Operation: Good throughout. See item 3 under Remarks.
- 6. Film Metering:
  - a. Port Horizon Camera 0.11"
  - b. Starboard Horizon Camera 0.20"
- 7. Film Tracking: Normal throughout mission.
- 8. Timing Pulses: Pulses occur in the image area and are readable only on engineering passes having no imagery.
- 9. Fiducials:
  - a. Main Camera: Fiducials vary from ragged to clear, possibly due to intermittent emulsion build-up and clearing.
  - b. Horizon Cameras: Sharp with no flare.
- 10. Flare: None noted.
- 11. Light Leaks: A total of 69 frames are degraded by light leaks. These are associated with the beginning and end of passes in addition to their presence in split pass camera on-off. Examples are: pass DOOE, frames 7-8; pass DO8, frames 36, 108, 109. Toward the end of the mission, specifically from pass D24 to end, a very heavy light leak is present in frame 3 which resulted in intermittent fogging of frames 4 and 5.
- 12. Static Electricity: This condition is evident in passes such as D24 and on engineering passes. It is assumed that it is also present in all passes although it could not be positively identified due to the presence of negating imagery. Examples include plus density and negative density, examples such as: pass D00E, frames 1, 2, 3, 4, 5; pass D03, frames 41, 43, 44, 45.
- 13. Pinholes: Intermittent throughout mission.
- 14. Abrasions and Scratches: A heavy camera-induced scratch occurs intermittently beneath either the sixteenth digit of the binary, the camera number or the port fiducial. Pass D2O contained scratches throughout, which were not present when the film arrived from the processor.
- 15. Tearing: No film tearing.
- 16. Water Marks: Only present on pass D31, frames 10, 11.
- 17. Pressure Streaks: Present throughout the mission on base side of the film.

NOT TO BE DISSEMINATED OUTSIDE OSA-DD/R

COR NO. 1690 Page 2 of 6

- 18. Processing Streaks: None evident.
- 19. Blistering and Frilling: No frilling evident. Blisters are present intermittently throughout the mission. Examples: pass DO6, frames 6, 58; pass DO4, frames 12, 122; pass A33, frames 46, 48.
- 20. Contrast: Low 20%, medium 75%, high 5%.
- 21. Apparent Resolution: Acuity of imagery for most of the frame is the best obtained by any mission to date. A slightly out-of-focus area is discernible for approximately three inches into the terrain format from the starboard border of the terrain format (eastern portion on ascending and western portion on descending passes with film oriented with line-of-flight pointing away from the observer). Imagery slightly sharper (except for the out-of-focus area) than that obtained from the aft camera.
- 22. Apparent Granularity: Fine
- 23. Photo Quality:
  - a. Main Cameras: Good. Degradation due to presence of slippage and fogging of terrain format by the horizon camera image.
  - Horizon Cameras: Imagery fair overexposed. Reflections within system also present in images.
- 24. Camera Operation:
  - a. Main Camera: Good. Forward camera produced pressure marks (fogged patches) spaced approximately 6 inches apart. These are particularly evident in areas of low density. None evident on aft camera.
  - b. Horizon Camera: Port shutter remained open intermittently during six passes. Examples: pass AO4, frame 10; pass DO4, frames 10, 12, 14, 16, 22, 24, 28, 30.
- 25. Suitability for P.I.: Except where the horizon camera shutter remained open resulting in fogged frames and the out-of-focus area present in the forward camera, the imagery is the best obtained to date, thus this item was classified as good.

#### Remarks:

- 1. End-of-pass marker functioned correctly indicating the end of a pass, but blossomed on the last frame of each pass.
- 2. Light leaks appear on the last frame of all passes and intermittently on the first and third frames from the head and last three frames of passes. Examples: pass Al3, frames 1, 31, 32; pass A29, frames 1, 3, 23, 24. The light leak found in frame 3 of passes A31, A32, A33, D33 fogged portions of frame 4 and may have extended into frame 5. This pattern was the same as reported on Mission 9029, Item 9c.
- 3. Multiple binary recordings are found usually associated with the camera off at the end of a pass and during split passes. Occasionally, a blurred binary is found on a frame not associated with the end of a pass.
- 4. Numerous small crimps are present, the majority of which should be attributed to film handling after arrival of the film from the processor.
- 5. Lifted emulsion occurred intermittently throughout the mission. Examples: pass DOOE, frames 1-7; pass DO3, frames 1, 2, 4, 7, 11, 16, 18, 20-22.
- 6. Foreign matter was found intermittently throughout the pass. Examples: pass DO3, frames 1, 3, 9; pass DO5, frames 11, 20, 36, 43, 66, 69.
- 7. Few desensitized spots were found. Examples: pass DOOE, frames 1-8; pass AO2 frames 8, 10.

Page 3 of

8. The following is a description of overlap and slippage for camera 72 as determined from the first and last frames of each pass whenever possible. Cloud cover, low sun angle and no imagery may have precluded determination in these areas in some passes.

Pass   Beginning   End   First Frame   Last Frame   Doc		Overlap		Slippage (From	· Take-up Side)
FWD DOOE 6.50"  DO1 11.50"  AO2 10% 21% 12"  DO3 10% 12"  DO4 4% 15"  DO5 0% 10% 15"  DO6 0% 4% 5"  DO7 3% 15"  DO8 0% 7% 5"  AO9E 5"  DO9 0% 4% 5"  A13 2% 16"  A17 0% 2% 13.50" 18"  A17 0% 2% 100"  A18 0% 4% 9"  A20 10"  A20 10"  A20 10"  A20 0% 0% 3.25"  D21 0% 0% 0% 3.62"  A29 3.62"  A30 10% 8"  A30 8"  A31 0% 10% 9"  D31 0% 0% 8.50"  A32 0% 0% 8.50"				-	
FWD DOOE	Pass	Beginning	$\operatorname{\mathtt{End}}$	First Frame	Last Frame
D01 A02 10% 21% A03 8% 25% 12" D03 10% A04 D04 14% D05 0% 10% D06 0% 14% D07 3% 15" D08 0% 7% A09E D09 0% 14% D09 0% 10" A13 2% 13.50" 18" A17 0% A19 10" A20 D24 0% 0% 0% 3.25" D21 0% 0% 0% B25E A25E A30 A31 0% 0% 0% B31 0% 0% 0% B31 0% 0% B32 0% 0% B33					6.50"
A02		# # <b>=</b>			
DO3		10%	21%		11.50"
DO3		8%	25%	1991 640 550	12"
A04		10%			
D04	A04				
DO7        3%         DO8       0%       7%         A09E        5"         DO9       0%       4%        16"         A13       2%        13.50"       18"         A17       0%       2%        7.50"         A18       0%       4%        9"         A19         10"         A20         9.56"         D20       0%       0%        3.25"         D21       0%       0%           A25E         8"         A30        8"          A31       0%       10%        9"         A32       0%       0%        8.50"         A33       5%		4%			
DO7        3%         DO8       0%       7%         A09E        5"         DO9       0%       4%        16"         A13       2%        13.50"       18"         A17       0%       2%        7.50"         A18       0%       4%        9"         A19         10"         A20         9.56"         D20       0%       0%        3.25"         D21       0%       0%           A25E         8"         A30        8"          A31       0%       10%        9"         A32       0%       0%        8.50"         A33       5%		0%	10%		<b></b>
DO7        3%         DO8       0%       7%         A09E        5"         DO9       0%       4%        16"         A13       2%        13.50"       18"         A17       0%       2%        7.50"         A18       0%       4%        9"         A19         10"         A20         9.56"         D20       0%       0%        3.25"         D21       0%       0%           A25E         8"         A30        8"          A31       0%       10%        9"         A32       0%       0%        8.50"         A33       5%	D06	0%	4%	que sate que	
A09E D09			3%		15"
A09E D09	DO8	0%	7%		
D09       0%       4%        16"         A13       2%        7.50"         A17       0%       2%        7.50"         A18       0%       4%        9"         A19        10"        10"         A20         9.56"        3.25"         D20       0%       0%        3.25"           3.62"         D21       0%       0%         3.62"         8"         8"        7.50"       8"        9"         9"          8.50"         8.50" <t< th=""><th></th><th></th><th></th><th></th><th>5<b>"</b></th></t<>					5 <b>"</b>
A13		0%	4%		16"
A19 A20 D20 O% O% O% D24 O% A25E A29 A30 A31 O% D31 O% D31 O% O% D31 O% O% A32 O% O% A33 5% A33 5% A33 5%	A13	2%		13.50"	18"
A19 A20 D20 O% O% O% D24 O% A25E A29 A30 A31 O% D31 O% D31 O% O% D31 O% O% A32 O% O% A33 5% A33 5% A33 5%	A17	0%	2%		7.50"
A19 A20 D20 O% O% O% D24 O% A25E A29 A30 A31 O% D31 O% D31 O% O% D31 O% O% A32 O% O% A33 5% A33 5% A33 5%	A18	0%	4%		9"
A20 D20 O% O% D21 O% O% D24 O% A25E A29 A30 A31 O% D31 O% D31 O% O% D31					10"
D20       0%       0%        3.25"         D21       0%       0%           D24       0%         3.62"         A25E         8"         A29         8"         A30         9"         A31       0%       10%        9"         D31       0%       0%        8.50"         A32       0%       0%        8.50"         A33       5%	A20	604 AND 1986			9.56"
A25E 3.62" A29 8" A30 7.50" A31 0% 10% 9" D31 0% 0% 8.50" A32 0% 0% 8.50"		0%	0%		3.25"
A25E 3.62" A29 8" A30 7.50" A31 0% 10% 9" D31 0% 0% 8.50" A32 0% 0% 8.50"		0%	0%		
A25E 3.62" A29 8" A30 7.50" A31 0% 10% 9" D31 0% 0% 8.50" A32 0% 0% 8.50"	D24	0%			~-==
A29 8"  A30 7.50"  A31 0% 10% 9"  D31 0% 0% 8.50"  A32 0% 0% 8.50"					3.62 <b>"</b>
A30 7.50" A31 0% 10% 9" D31 0% 0% 8.50" A32 0% 0% 8.50"	A29	<b></b>	ee 100 til		8"
D31 0% 0% 8.50" A32 0% 0% 8.50" A33 5%	A30	op to me			7.50"
D31 0% 0% 8.50" A32 0% 0% 8.50"	A31	0%	10%	900 mm	9"
A32 0% 0% 8.50" A33 5% D33 0% 0%	D31	0%	0%		
A33 5% D33 0% 0%	A32	o <del>%</del>	0%		8.50"
D33 0% 0%	A33	5%			
-55	D33	0%	0%		40 CD 100 US

9. Density readings were made on every pass using the Eastman Kodak Reflection Transmission Color Densitometer, Model RT. Absolute values read for D Max and D Min, as well as Gross Fog and Sun Angle are as follows:

Pass	Frame	D Max	D Min	Gross Fog	Sun Angle
A02	09 84	1.97 2.22	0.86	0.20 0.19	18° 30' 24° 24'
A03	22 81	2.12 2.21	1.13	0.19 0.20	19° 53' 24° 17'
D03	17 18	2.14 2.10	1.05 0.43	0.20 0.10	26° 29' 25° 06'
AO4 DO4	16	1.96	0.24	0.08	24° 56'
D05	12 30 49 86	2.02 1.95 1.92 1.56	0.62  0.30 0.68	0.09 0.09 0.08 0.18	27° 01' 26° 26' 25° 43' 22° 45'
<b>1</b> 006	03 3 <sup>1</sup> 4	2.16 2.18	0.84	0.19 0.19	27 <sup>0</sup> 081 26 <sup>0</sup> 031
D07	12 61	1.94 2.19	0.66	0.20 0.20	27 <sup>0</sup> 05' 24 <sup>0</sup> 29'
, <b>DO</b> 8	18 90	2.16 2.02	0.63	0.19 0.20	28° 09' 25° 43'
<b>D</b> 09	15 68	2.19 2.14	0.78	0.18 0.18	27 <sup>0</sup> 13' 25 <sup>0</sup> 03'

COR NO. 1690 Page 4, of 6

Pass	Frame	D Max	D Min	Gross Fog	Sun Angle
A13	03	2.10	<del></del>	0.21	17° 214'
A17	16	2.19	1.08	0.20	18° 51'
Al8	13	2.05	1.04	0.20	18° 07'
	60	2.20		0.20	23° 21'
A19	34	2.20	1.04	0.18	200 37'
	82	2.20	1.18	0.20	25° 05'
A20	12	2.25	1.09	0.19	24° 30'
D20	20	1.97	1.00	0.19	27° 18'
D21	13	2.23		0.19	28° 44°
	42	2.10	0.88	0.19	27° 51'
	82	2.01	0.57	0.19	24° 48'
	150	2.05	0.77	0.23	20° 201
D24	49	2.08		0.20	28° 291
	56	2.05	1.02	0.21	28° 15'
	97	2.14	0.55	0.20	26° 28'
	132	2.13	0.97	0.20	24° 30'
A29	11	2.18		0.20	180 21'
A30	06	1.98	0.73	0.20	15° 37'
A31	23	2.25	1.04	0.20	18° 23'
D31	09	2.22	0.60	0.19	26° 55'
A32	19	2.05	0.99	0.20	17° 19'
A33	12	2.07	0.88	0.20	17° 40'
	59	2.15		0.21	22° 54'
D33	21	2.16	0.95	0.20	30° 18'

Average D Max 2.10 Average D Min 0.81 Average Gross Fog 0.18

Range D Max 2.25 - 1.56
Range D Min 1.18 - 0.24
Over-all Range 2.25 - 0.24
Range Gross Fog 0.23 - 0.08

COR NO. 1690 Page 5 of 6

### 10. Vehicle Attitude Data

			Pitch			Roll	No. of
Pass	Pitch Va	riation	Range	Roll Va	eriation	Range	Frames
DOOE	140 441	14 <sup>0</sup> 15 *	291	-0° 47°	-0° 30'	17°	8
A02	130 31'	130 021	291	=00 144°	+0° 231	39°	97
A03	13° 39'	13° 05'	34.	-00 301	+0° 24 1	54:	95
DO3	13° 39' 13° 42'	130 551	201	-0° 091	+0° 07'	161	53
AO4	140 01'	13° 06'	55 °	+00 401	o 38°	1° 02'	38
DO4	140 061	13° 06' 13° 31' 13° 19'	351	-0° 581	+0° 07'	1 <sup>0</sup> 05'	30
D05	140 121	130 191	531	_0° 531	~00 14 °	39 '	114
D06	14° 26°	13° 25'	10 011	_0 <sup>0</sup> 591	+0° 32′	10 311	98 split
D07	140 091	13° 13'	56 '	-1° 16'	+0° 21°	1° 37'	83
D08	140 071	13 <sup>0</sup> 12 '	55'	$-1^{\circ}$ 10 $^{\circ}$	+0° 03'	1° 13'	109 split
D09	140 191	13 <sup>O</sup> 141	1° 05'	-1° 17'	ചാ° 06 ¹	1° 13'	93
A13	13° 40' 13° 46'	13° 07' 12° 32'	331	-1° 17'	-0° 08°	1° 09'	32
A17	130 46'	12° 32°	10 14	-1° 28' -1° 03' -1° 59' +0° 50'	-0° 24'	10 04:	32
A18	13 59'	12 <sup>0</sup> 57'	10 021	-1 03'	0° 00'	1° 03'	80
A19	140 021	130 19	431	-1° 59'	+0° 18°	20 17'	95
A20	14° 05°	130 051	1° 00 '	+0 <sup>0</sup> 50°	+0° 14'	_ 36"	27
D20	14° 00°	13° 18′	421	+00 541	-0° 22'	1° 16'	57
D21	130 571	130 31'	261	+1° 28'	-1° 10°	<b>50 3</b> 8,	159 split
D24	13º 59'	13° 28′	31 3	-0° 41°	+00 081	_ 49'	134
A29	13 <sup>0</sup> 56'	13° 21'	35'	-1° 30°	-0° 10' -0° 31'	1° 20'	24
A3ĺ	13° 40°	13 <sup>0</sup> 10'	30 1	-1° 53'	-0° 31'	1 <sub>0</sub> 55;	43
D31	14° 21'	14° 13°	081	+0° 40°	+00 021	381	12
A32	age cent was one	na co mo co	CD MO MO	-2° 01' -1° 23'	+00 031	2° 04°	44.
A33	13° 56°	12° 591	57°	-1° 23'	+1° 00°	2° 23'	74
D33	13° 38'	13° 21'	17'	-° 53°	-0° 23°	33'	27

Note: Compiled from FWD camera computations.

Approved For Release 2003/09/02 : CIA-RDP63-00313A000600190007-9 Density MISSION 9032 - DENSITY CHART 2.5 D Max 2.0 TOP SECRET 1.5 D Min 1.0 25X1 25X1 0.5 Gross Fog 0 45 Recordings 40 25

Approved For Release 2003/09/02 : CIA-RDP63-00313A000600190007-9

Forward Camera

## Approved For Release 2003/09/02 : CIA-RDP63-00313A000600190007-9

TOP SECRET

1691 COR NO. 25 June 1962 Сору

25X1 25X1

PHOTOGRAPHIC EVALUATION REPORT AFT CAMERA

18 April 62

Mission No: 9032

Photo Date:

Evaluation No.: FE 30-62

Film Type: Camera No:

J-23-7600 73 AFT

Filter, Main: W 21 Evaluated By: TK & ES Filter, Horizon: W 25

1. Shutter Operation:

a. Port Horizon - Good

b. Starboard Horizon - Good

2. Slit Width - (Main Camera) 0.2" - Good

3. Exposure:

a. Port Horizon = 1/50 sec, overexposed

b. Starboard Horizon = 1/50 sec, overexposed

Camera Number: Operational, slightly overexposed

5. Binary Operation: Operational throughout mission. Slightly overexposed

Film Metering:

Port Horizon Camera - 0.11" Starboard Horizon Camera - 0.20"

7. Film Tracking: Normal throughout mission

8. Timing Pulses: Pulses are more legible than those of forward camera. Flare from

timing pulses has spread slightly into trailing edge of terrain

9. Fiducials:

Main Camera - center, and one 3" from center partially filled (ragged); others clean.

b. Horizon Cameras - operational although slightly overexposed.

10. Flare: None noted.

- 11. Light Leaks: A light leak is present on the leading edge of the frames and extends into the main format on frame 1 of each pass. Additional light leaks are the "bar pattern", usually two or three frames from the end of pass or camera-off position on split passes; a single diagonal pattern either on the last or next-to-last frame and in the first frame of each pass; additional fogging is found intermittently near the beginning and end of passes. Examples: Pass DOOE, frames 1, 4, 5; pass DO3, frames 1, 51, 52; pass DO5, frames 1, 12, 13, 71. A shadow pattern can be noted intermittently in the Port Horizon Camera, Example: DOOE, frame 6.
- 12. Static Electricity few examples in the AFT camera frames: Pass D2O, frame 51; pass D33, frame 25. Static is frequently observed where the film clamp was engaged near the horizon cameras.
- 13. Pinholes: None noted.
- 14. Abrasions and Scratches: Camera induced scratches (quite deep) throughout most of mission below fiducial located four inches from frame border and/or below camera number. Examples: Pass DO5, pass DO7, pass A17, pass A30. Other scratches are found intermittently throughout the mission. Examples: Pass AO2, frames 1, 26, 61-63, 90; pass Al7; frame 17; pass Al9, frames 11, 76.

IN HE DISSEMINATED MISSEL OSA-DD/R

25X1

COR NO. 1691 Page 2 of 4

- 15. Tearing: No film tearing found
- 16. Water Marks: Few observed. Examples: Pass D03, frame 31; Pass D09, frame 11; Pass D24, frames 59-61, 67.
- 17. Pressure Streaks: Present throughout mission on base side of film.
- 18. Processing Streaks: None evident.
- 19. Blistering and Frilling: No frilling evident. Few blisters are present. Examples: Pass AO4, frames 19, 37; Pass Al7, frame 15; Pass D20, frame 5; Pass D21, frame 138.
- 20. Contrast: Low 15%, Medium 75%, High 10%
- 21. Apparent Resolution:
  - a. Main Camera Imagery obtained is not quite as sharp as that obtained by the forward camera, however, it is better than that obtained from any previous mission. No out-of-focus areas were noted.
  - Horizon Cameras:
     Port Horizon Camera out-of-focus
     Starboard Horizon Camera good
- 22. Apparent Granularity Fine
- 23. Photo Quality:
  - a. Main Camera good. Degradation due to a negative density streak that is present the entire width of frame, 0.25 inch into the terrain format near the leading edge of the film. Other plus-density and negative-density streaks are present intermittently throughout the mission.
  - b. Horizon Cameras fair; Port Horizon Camera, out-of-focus. Reflections present in some frames. Example: Pass DOOE, frames 2, 4, 6. Mostly overexposed.
- 24. Camera Operation:
  - a. Main Camera good
  - b. Horizon Camera good
- 25. Suitability for P.I.: Although the imagery is not quite as sharp as that from the forward camera it is the best obtained from any mission to date, as this item is classified as good.

#### Remarks:

- 1. The end-of-pass marker functioned correctly although slightly heavy (overexposed). No "blossoming" is present.
- 2. The light leak pattern as described in Mission 9029, Item 9C, appears from Pass A20 to the end of the mission resulting in fogging frame 3, and after Pass D33 frames 4 and intermittently frame 5. Other light leak patterns are fully described under Item 11 of this report.
- 3. Multiple binary recordings are found usually associated with the camera-off at the end of a pass and during split passes. Occasionally, a blurred binary is found on a frame not associated with the end of a pass.
- 4. Numerous small crimps are present, the majority of which should be attributed to film handling after arrival of the film from the processor.
- 5. Lifted emulsion is present intermittently on the film. Examples: Pass DOOE, frames 1, 2, 5; Pass DO5, frames 10, 98, 105; Pass Al7, frames 1, 15, 28, 31; Pass D33, frames 2, 3, 10, 24, 25.
- 6. Foreign matter on the film is present intermittently throughout the film and ranges from gum transfer from splices to particles embedded in the emulsion. Examples: Pass D03, frames 10, 21, 52, 53; Pass D09, frames 61, 67, 68, 75, 92; Pass D21, frames 2, 58, 110, 113, 116, 118, 148, 158.

COR NO. 1691 Page 3 of 4

- 7. Few densensitized spots are present on the film. Examples: Pass DOOE, frames 1, 3; Pass DO5, frame 96; Pass D24, frame 107.
- 8. The following is a description of overlap and slippage for camera 73 as determined from the first and last frames of each pass whenever possible. Cloud cover, low sun angle and no imagery may have precluded determination in these areas for some passes.

Overlap			Slippage (From take-up side)		
Pass	Beginning	End	First Frame	Last Frame	
DOOE	us en eu	EC 173 (72)	None	6.62"	
DOL	60 CD do	€ම සා සා	<u>)†</u>	5.37"	
A02	12%	21%	3.50"	10"	
A03	8%	23%	கைவைய	10.37"	
DO3	8%		<b>மை</b> மல்	16"	
A04	With CAD West	er) en ce	14.12"	10.50"	
DO4	4%	LOT CO GEO	None	15.25"	
DO5	None	12%	12.75"	18"	
D06	None	8% 3% (Frame 39)	15.50"	18.12"	
D07	None	3% (Frame 39)	16.12"	16.12"	
D08	${\tt None}$	8%	14"	14"	
AO9E	64 to 45 to	യ രാത	13.75"	3"	
<b>D</b> 09	None	5% 7% 1%	0.37"	15.25"	
A13	${\tt N}\!$ one	7%	13.50"	6.37"	
<b>A</b> 17	None	1%	4.50"	5.75"	
<b>A</b> 18	None	2% (Frame 49)	3.75"	8"	
A1.9	None	4%	Not Measurable	8.25"	
<b>A</b> 20	₽- CH	Cara Cara	Not Measurable	7.75"	
D20	None	None	Not Measurable	12.75"	
D21	${\tt None}$	None	Not Measurable	15.25"	
D24	None	CH CA CA EM	13.37"	Not Measurable	
A25E	00 00 00 00	ne ov en en	Not Measurable	5	
A29	an of the to	that the sea one	Not Measurable	7"	
A30	None	GP 175 GB GB	5"	6.50"	
A31.	None	12%	4.50"	7.50"	
D31	None	None	5.50"	13.25"	
A32	<b>⇔</b> ∞ ∞	GB C3 E3 80	Not Measurable	8"	
<b>A</b> 33	None	1.5%	Not Measurable	12"	
D33	None	12%	9.25"	Not Measurable	

9. Density readings were made on every pass using the Eastman Kodak Reflection-Transmission Color Densitometer, Model RT. Absolute values read for D Max, D Min, Gross Fog and Sun Angle are as follows:

Pass	Frame	D Max	<u>D Min</u>	Gross Fog	Sun Angle
A02	09 84	1.96	0.76	0.20	180 31'
<b>A</b> O3	23	2.17	0.91.	0.20 0.20	24° 29' 20° 00'
DO3	80 23	2.10 2.10	0.97 1.00	0.20 0.18	24° 16' 26° 18'
A04	48 29	2.16 2.21	0.50 0.92	0.19 0.19	25° 26° 25° 17°
DO4	21 25	2.11 2.14	0.74 0.66	0.18 0.18	24° 42° 24° 31°
D05	18 52	2.18 2.06	0.80	0.20 0.17	26° 50°
D06	110 37	1.60 1.94	0.60 0.86	0.18	21° 28°
	81	1.76	0.49	0.18 0.16	25° 55° 21° 28°
D07	03 79	2.17 2.15	0.99	0.19	27° 21° 23° 33′
D08	43 95	2.00 1.85	0.78 0.60	0.17 0.19	27° 21' 25° 30'

COR NO. 1691 Page 4 of 4

Pass	Frame	D Max	<u>D Min</u>	Gross Fog	Sun Angle
D09	18 77	2.12 2.02	0.74	0.20 0.19	27° 06° 24° 36°
A13	26	2.16		0.18	20° 24'
A17	15	2.00	0.94	0.17	18° 38'
A18	15	1.90	1.04	0.16	18 <sup>0</sup> 27'
	64	2.20	ten car da BO	0.18	23 <sup>0</sup> 491
A19	11	2.04	an an an an	0.16	170 431
	80	2.20	DIV CIR DIN 400	0.16	25° 02' 25° 03'
A20	18	2.22	1.15	0.15	25° 03'
D20	24	1.97	0.86	0.15	27° 06'
D21	14	2.21	1.09	0.16	28° 421
	47	2.09	0.55	0.15	27° 391
_	117	2.01	0.57	0.17	28° 31'
D24	52	1.91	0.99	0.19	28° 22!
	73	1.56	0.71	0.21	27° 34° 26° 06′
	103	2.00	0.76	0.20	26° 06'
A29	10	2.02		0.20	18° 16'
A30	11	1.97	0.81	0.18	16° 22'
A31	33	2.05	Min can can can	0.21	19 <sup>0</sup> 39'
D31	12	2.05	1.00	0.21	26° 45'
A32	19	2.12	40 MI CP CP	0.20	17° 06' 16° 18'
A33	02	2.06	0.97	0.21	160 18'
	42	2.16		0.22	210 17'
D33	25	2.07		so on on on	30° 17'

Average D Max 2.04 Average D Min 0.82 Average Gross Fog 0.18

Range D Max 2.22 - 1.56 Range D Min 1.15 - 0.50

Range D Max to D Min 2.22 - 0.50 Range Gross Fog 0.22 - 0.15